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ABSTRACT

This study focused on the influences most effective in shaping the classroom behavior pattern of student teachers. College influences, particularly those emanating from education courses and supervisors, were compared with school influences, particularly those from cooperating teachers who work and guide teachers while they are serving as interns. A small sample of student and cooperating teachers was divided into two groups, one of which exhibited a pattern encouraged by the college, and the other of which did not. Behavior of both student and cooperating teachers was sampled early and late in the semester. Analysis showed strong convergence of behavior in two groups. Students tended to imitate their cooperating teachers in the field, regardless of the approval or disapproval of the college supervisor or education (methods) instructors. (Author)

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# In Thy Cooperating Teacher's Image: Convergence of Social Studies Student Teachers' Behavior Patterns with Cooperating Teachers' Behavior Patterns

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## Introduction

Teacher training is a complex process involving many components. These include academic courses, an education program, intellectual ability, teaching skills, and so on. All play some part in the development of an aspiring teacher.

Schools and college education programs consciously seek to develop a student into a teacher who conforms to some standard of competence, however precise or ill-defined. Popular folklore--perhaps correct--holds that college students gain little in either skills or knowledge from education courses, with the possible exceptions of "methods" courses and the student teaching experience. In a comprehensive survey of studies of the teacher's role Westwood suggest that teacher training ought to be viewed as the time in which a student constructs a personal concept of professional teacher behavior.[1] Within the student teaching experience, usually covering a period of four or five months, much greater influence is ascribed to the classroom practice than to the college supervision and seminar. Smith suggests that schools are more powerful socialization agents--probably for everyone in contact with them--than are colleges.[2] A student's concept of teaching develops more quickly in a setting in which he or she may watch other teachers at work on a daily basis.

One purpose of this paper is to view teacher behavior in a developmental framework, i.e., from the beginning to the conclusion of student teaching, and to describe it in terms of measurable behavioral categories. A second purpose focuses on learning more about the influences crucial to the development of a teaching "style" by student teachers. Conclusions about the relative influence of college supervision and school supervision will be inferred from interaction analysis data about student teachers and the teachers with whom they work in the secondary schools. The teacher with whom a student teacher works is often referred to as a cooperating teacher, master teacher, supervisor, etc., in different parts of this country. It is hypothesized that the cooperating teachers exert the dominant influence in shaping the behavior of new teachers who are assigned to their classrooms.

Numerous studies have probed for behavior changes in teachers as a result of intervention through supervision, courses, programs, materials, and so forth. Several have investigated the stability of teaching in field situations (natural settings). If teacher behavior is stable and fits a regular pattern, particularly the behavior of cooperating teachers, then much greater force would be given to the examples being modelled for teachers-to-be. Morgan and Woerdehoff have indicated that student teacher behavior is generally stable during the first six weeks of their practice experience, but give little data for a follow-up at a later period.[3] Hill and Medley, however, found a significant behavior change during a three-and-one-half month period in the second semester of student teachers.[4] Bellack, et al. concluded that both teacher and student in classrooms were remarkably stable and fell into definite and continuing patterns of interaction.[5]

If cooperating teachers are influential and stable models for student teachers, then it would seem that the probability of imitating their behaviors and interaction patterns would be very high. This process of imitation could be at least partially controlled by careful choice of the persons serving as cooperating or master teachers. College training programs could choose teachers whose classroom styles conformed to set of behavioral criteria for effectiveness or desirability.

Furthermore, the new trend toward field-based, competency-oriented, training programs, if this continues, should offer increased opportunities to develop closer college-school relationships.

Plan

A pilot study was developed to assess the influence of different types of cooperating teachers upon the student teachers assigned to them. Both groups specialized in secondary-level social studies instruction.

Over a period of four semesters, September, 1971 through May, 1973, a sample of sixteen Queens College student teachers and their cooperating teachers were observed in local secondary schools. Observations took place during the semester in which students had their student teaching experience, a period of about five months. During this semester, each student and cooperating teacher was observed six times, three times toward the beginning, and three times toward the conclusion of the training experience.

During the four semester study, twelve of the classrooms observed were in public high schools and four in public junior high schools. Classroom groups were socially and racially heterogeneous in composition and of average to above-average reading ability (according to mean reading scores in school records). All of the schools were located in areas where the population was predominantly middle or lower-middle class as measured by U.S. Census Bureau median income levels.

Simultaneously with their teaching experience, student teachers attend a weekly, two-hour seminar with their college supervisor. Each semester, the college supervisor was required to visit student teachers five times apiece and had final say over a student's grade for teaching performance.

Cooperating teachers were in contact with their student teachers on a daily basis for approximately five months. Typically, a student teacher would spend about three to four periods in the school building and would have major responsibility for teaching a social studies class throughout the semester (minus two to three weeks at the end of each term due to a difference in college and public school schedules).

Eight subjects were observed each semester of this study using the same early-late, pre-postest sampling design. In all, data was collected for thirty-two subjects, sixteen cooperating teachers and sixteen student teachers.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Fall, 1971 | 4 | Student | Teachers | and | 4 | Cooperating | Teachers |
| Spring, 1972 | " | " | " | " | " | " | " |
| Fall, 1972 | " | " | " | " | " | " | " |
| Spring, 1973 | " | " | " | " | " | " | " |

Although great variability is possible, restricting data collection to a limited geographic area in one subject (social studies) at a particular school level should have worked to reduce the influence of factors extraneous to this experiment. In addition, control was further increased by the selection of specific cooperating teachers for participation in the study. Teachers were chosen because they exhibited stable classroom interaction patterns of either an "inquiry," or open-ended type or a "traditional," lecture-recitation type.

Data Collection

Data was collected by observers who were trained to use an expanded form of Flanders' Interaction Analysis.[6] The major difference between this form and the original Flanders' category set was the incorporation of five stages from Bloom's Taxonomy of Educational Objectives into the teacher questioning and student-initiated categories (categories 4 and 9).[7] The categories used for this study are as follows:

Queens College Category System for Analyzing Classroom Behavior*

A. Teacher Behaviors
1. Accepts Feeling
2. Praises/Positive Feedback
3. Accepts/Uses Student Ideas
(Repeats, Paraphrases, Redirects, Elaborates)
4. Asks Questions
Levels
- 4.1 Recall Level
- 4.2 Understanding and Feeling Level
- 4.3 Analysis Level
- 4.4 Synthesis/Application Level
- 4.5 Evaluation Level

5. Lectures
6. Directs
7. Punishes/Criticizes/Negative Feedback

B. Student Behaviors
8. If Called upon by the Teacher
Levels
- 8.1 Recall
- 8.2 Understanding and Feeling
- 8.3 Analysis
- 8.4 Synthesis and Application
- 8.5 Evaluation and Moral Judgement

9. If Volunteers Ideas
Levels
- 9.1 Recall
- 9.2 Understanding and Feeling
- 9.3 Analysis
- 9.4 Synthesis and Application
- 9.5 Evaluation and Moral Judgement
- 9.6 Student to Student Interaction

10. Miscellaneous Behavior
- 10.1 Silence
- 10.2 Multiple Speakers/Relevant Behavior
- 10.3 Irrelevant, Disruptive Behavior
- 10.4 Refusal to Participate/Don't Knows

*Many other categories systems could have been used for this type of inquiry[8], however this one was familiar to the observers and was specifically designed to collect data on the teacher's questioning behavior--a category considered central to distinguishing between different teaching styles, i.e., inquiry and lecture-recitation.

Observers were graduate students who volunteered to take part in the project as part of their research seminar. Four observers collected the data over the two year period of the study; two the first year and two different individuals the second year. Observer teams first worked with the original ten Flanders' categories for interaction analysis. Training took place using tape-recorded classroom examples, videotaped segments and live classrooms. Observer teams worked with the expanded category set after achieving a Scott's Coefficient of Reliability equal to or greater than .80 on the Flanders' original ten. At the conclusion of each training period, observer reliability was assessed by their resultant coefficients of correlation for a videotaped and live classroom segment thirty minutes in length.

| | | Video Segment | Live Segment |
|---|---|---|---|
| First year team ($O_1$ and $O_2$) | | .73 | .65 |
| First and Second year teams | ($O_1$ and $O_3$) | .66 | .59 |
| | ($O_2$ and $O_4$) | .64 | .57 |
| | ($O_1$ and $O_4$) | .69 | .61 |
| | ($O_2$ and $O_3$) | .61 | .55 |
| Second year team ($O_3$ and $O_4$) | | .78 | .71 |

It should be noted that while reliability levels are relatively low when teams are interchanged, these teams were trained a year apart and were working with a category system of considerable size. The more categories observers have to work with, usually the greater the risk of disagreement. However, teams did have extensive field experience using the expanded system of twenty-four categories; and the five subcategories representing Bloom's taxonomy are repeated three times. In effect, the expanded notation system incorporates fifteen <u>different</u> categories rather than twenty-four.

During each visit to a classroom observers coded approximately 30 minutes of interaction. Standard practice for <u>Interaction Analysis</u> was followed: A notation made every three seconds during an observation period.

Teacher Selection

Teachers were chosen from among the pool of cooperating teachers who had volunteered to work with student teachers from Queens College. Selections were decided upon after joint consultation between the college supervisor and observers--based on previous observations of a cooperating teachers' interaction pattern.

Half the teachers selected each semester were known to exhibit a lecture-recitation pattern of classroom interaction. The remaining half were chosen because they exhibited a more fluid, inquiry-type pattern of behavior. Teachers chosen for participation in this study had to meet the following criteria:

Inquiry-type teacher interaction pattern*

1. Speaks 50% or less of total classroom time.
2. Uses students' ideas 5% or more of total classroom time.
3. Asks higher-level questions (levels 2, 3, 4, and 5) as frequently as lower-level (level 1) questions.

*The definitions of inquiry and lecture-recitation styles should not be construed as complete protrayals of either approach to teaching. Each definition should be viewed as an attempt to partially operationalize important facets of each

Lecture-recitation type teacher interaction pattern

1. Speaks 60% or more of total classroom time
2. Uses students' ideas 3% or less of total classroom time
3. Asks lower level (level 1) questions at least twice as often as higher level (levels 2, 3, 4, and 5) questions.

Cooperating teachers were selected because they consistently matched one of the two patterns of behavior outlined above. Teachers who exhibited unstable behavior patterns or who did not fit the criteria were eliminated from study.

All of the student and cooperating teachers worked with the same college supervisor. The supervisor (also the researcher) followed a consistent line of thinking with respect to both theory and practice. He strongly encouraged student teachers to exhibit an inquiry-type pattern in their approach to teaching, rather than a lecture-recitation approach. During seminars and conferences, student teachers were introduced to inquiry teaching techniques and inquiry-oriented social studies materials. The supervisor also attempted to model inquiry behaviors for students in their college seminars which usually comprised between thirteen and fifteen meetings.

Each semester, half of a matched group of student teachers were assigned to inquiry-type teachers and half to lecture-recitation type teachers. Matching was carried out based on sex, age, subject matter specialty, grade average, and school level.

Findings

Data reported in this paper are given in terms of the teacher interaction categories in the expanded version of Flanders' Interaction Analysis previously presented in this paper. Student interaction data (categories eight through ten) were omitted from consideration for the purposes of this study. Tables show group rather than individual interaction patterns. Computations were made by first calculating the category frequencies for each separate observation; then by calculating the means for combined category frequencies from multiple observations made early or late in a semester. The Chi-square was used as a test of significance and fit.

Table 1

Early Semester Mean Proportions* for Inquiry-Style Cooperating Teachers (N=8)

10 - 0.08
20 - 3.36
30 - 7.20
41 - 4.20
42 - 1.82
43 - 2.94
44 - 1.41
45 - 2.12
50 -16.10
60 - 3.25
70 - 1.82

(41 through 45 combined =12.49)

Mean Total = [illegible].80

$X^2$ = 21.50

Table 2

Early Semester Mean Proportions for Student Teachers assigned to Inquiry Cooperating Teachers (N=8)

10 (no behavior observed)
20 - 4.04
30 - 3.60
41 - 5.88
42 - 2.64
43 - 1.03
44 - .26
45 - 1.08
50 -29.95
60 - 5.00
70 - 2.91

(41 through 45 combined =10.89)

Mean Total = 56.39

Significant at .02 level

Student teachers assigned to inquiry-type cooperating teachers demonstrated sharply different interaction patterns early in the semester. Dramatic differences existed in categories 30, 41 through 45, and 50, using students' ideas, questioning, and lecturing. The total interaction patterns for the groups were divergents: The student teachers exhibiting behaviors similar to those defined as characterizing a lecture-recitation style, rather than an inquiry style. A Chi-square test indicated there was a significant difference between the behavior of the two groups early in the semester. Inspection of the two tables shows that mean totals were more than eleven points apart when the cooperating teacher inquiry group is compared with the student-teacher group.

Table 3

Early Semester Mean Proportions for Lecture-recitation style cooperating teachers (N=8)

10 (no behavior observed)
20 - 3.41
30 - 2.68
41 - 7.01
42 - 2.20
43 - 1.12
44 - 0.46
45 - 1.05
50 -38.44
60 - 5.95
70 - 2.43

(41 through 45 combined =11.84)

Mean Total = 64.75

Table 4

Early Semester Mean Proportions for student teachers assigned to lecture-recitation cooperating teachers (N=8)

10 (no behavior observed)
20 - 4.26
30 - 3.18
41 - 6.13
42 - 2.90
43 - .81
44 - .08
45 - .85
50 -32.52
60 - 5.45
70 - 3.27

(41 through 45 combined = 10.77)

Mean Total = 57.51

$X^2 = 3.85$

Not significant

Interaction patterns for the lecture-recitation style cooperating teachers and their student teachers were relatively alike. There were strong differences in questioning (with the cooperating teachers exhibiting a more equitable distribution of behavior among the five levels of questioning than student teachers) and lecturing (where the student teachers lectured less frequently than their cooperating teachers).

Early similarities in the interaction patterns of these two groups may be explained by the dominance of the lecture-recitation styles of teaching in our society. Student teachers tend to model the patterns they are familiar with and adapt more quickly to a commonly accepted teaching method. It should be noted that there was much less early similarity between the inquiry-style teachers and their students than there was between the recitation-style group and the student teachers assigned to them.

Tables 1 through 4 seem to support the interpretation that both student teacher groups began the semester of their student teaching following a pattern of interaction somewhere between the inquiry and lecture-recitation styles, but

somewhat closer to the latter style. They tended to spend less time asking higher level questions than the inquiry-style teachers, but relatively more time than the lecture-recitation style teachers. Time spent lecturing seemed rather high for both student teacher groups. The two student teacher groups were remarkably similar (at least in this type of combined data presentation) regardless of the kind of teacher they were working with. The Chi-square test was nonsignificant when the two student teacher group interaction patterns were compared. However, the interaction patterns of the cooperating teacher groups showed wide differences in questioning, lecturing , and using students' ideas. Mean totals were very far apart, i.e., teachers in the inquiry group tended to occupy much less of classroom time than did the lecture-recitation group (about 45% versus 65% of total classroom time observed). A Chi-square test comparing Tables 1 and 3 indicate a significant difference between the two teacher groups ($X^2$=29.90 significant at .01 level).

Table 5

Late Semester Mean Proportions for Inquiry style cooperating teachers. (N=8)

10 - 0.14
20 - 3.10
30 - 6.85
41 - 2.98 ( 41 through 45 combined =11.89 )
42 - 1.47
43 - 3.01
44 - 1.63
45 - 2.80
50 -14.50
60 - 3.08
70 - 1.66

Mean Total = 41.20
$X^2$ = 4.73

Table 6

Late Semester Mean Proportions for student teachers assigned to inquiry cooperating teachers (N=8)

10 - 0.06
20 - 3.52
30 - 5.43
41 - 4.36 ( 41 through 45 combined =11.41 )
42 - 1.92
43 - 2.14
44 - .94
45 - 2.05
50 -21.48
60 - 3.98
70 - 2.26

Mean Total = 48.14
Not Significant

Table 7

Late Semester Mean Proportions for Lecture-recitation style cooperating teachers (N=8)

10 - 0.04
20 - 3.87
30 - 2.92
41 - 6.81 ( 41 through 45 combined =13.10 )
42 - 2.75
43 - 1.83
44 - 0.32
45 - 1.39
50 -40.14
60 - 6.30
70 - 2.65

Mean Total = 69.02
$X^2$ = 0.46

Table 8

Late Semester Mean Proportions for student teachers assigned to lecture-recitation cooperating teachers (N=8)

10 (no behavior observed)
20 - 3.94
30 - 3.01
41 - 7.0° ( 41 through 45 combined =12.53 )
42 - 2.53
43 - 1.47
44 - .25
45 - 1.20
50 -37.05
60 - 6.00
70 2.83

Mean Total = 65.36
Not Significant

Tables 5 and 6 indicate a marked convergence of styles between the inquiry-style cooperating teachers and their student teachers. Student teachers in the inquiry group showed significant shifts in lecturing, questioning, and using students' ideas categories. These shifts all took place in the direction of decreasing lecture time, increasing the frequency of higher-level questions and increasing the use of students' ideas. However, in none of these categories did student teachers show as high a frequency of behavior as their inquiry-style desired by their college supervisor and modelled by their cooperating teachers--an inquiry-type behavior pattern in the classroom (Chi-square was not significant when these two groups were compared).

Tables 7 and 8 indicate that a convergence of styles took place between the lecture-recitation teachers and their student teachers.* Student teachers in this group showed increased frequencies in the categories for lecturing and asking lower-level questions; and decreased frequencies in the categories for higher-level questions and use of students' ideas. There was also an increase in the frequency of giving directions, this being in line with the relatively high frequencies of this behavior for cooperating teachers in the lecture-recitation group. Frequencies for the lecturing and low-level quesioning categories of student teachers almost matches the frequencies reported for the cooperating teacher group. However, use of students' ideas tended to remain higher for student teachers than cooperating teachers in this group.

Changes within the student teacher group assigned to lecture-recitation style teachers were in a direction counter to the desires of the college supervisor, out in line with the styles of their cooperating teachers. Certainly, generalizability for this study is very limited. However, within the limits of a pilot study, we can draw some conclusions about the influence of college supervisors and cooperating teachers on student teacher performance. Where cooperating teachers follow a lecture-recitation approach to classroom instruction, student teachers tend to conform closely and rapidly to that interaction pattern over the course of a semester. The student teachers seem to develop a lecture-recitation pattern in spite of the advice, example, reward, or any other stimulus offered by the college supervisor to adopt a more flexible, inquiry style in the classroom.

Student teachers assigned to inquiry-style cooperating teachers appeared to model the behavior pattern common to that group, but not as closely as student teachers assigned to the lecture-recitation group imitated their cooperating teachers. It seems that the adoption of an inquiry pattern of interaction is more difficult to achieve than a lecture-recitation pattern. It is also possible that the group of students assigned to inquiry-style cooperating teachers possessed personalities more resistant to an "open" instructional approach than their peers. Perhaps the secondary pupils student teachers in the inquiry group had to work with were less amenable to discussion techniques, more rigid, mistrustful of teachers, etc. But it is clear that, as the student teachers developed, they conformed more and more closely to the interaction patterns of the teachers with whom they worked, regardless of previous behavior frequencies in the categories observed for this pilot study. (Chi-square tests were not significant when student teacher interaction patterns late in the semester were compared with their cooperating teachers' patterns at the same time period.)

*These conclusions must be based on inspection of the interaction data since the Chi-square test did not reveal significant differences between student teachers and cooperating teachers in this group either early or late in the semester.

Recommendations:

The results of this experiment, though tentative, confirm conventional wisdom in teacher education that the schools (and cooperating teachers) are more potent training agents than the colleges (and college supervisors). However, where both the college supervisor and cooperating teachers model and advocate an inquiry pattern of classroom interaction, student teacher performance is less conforming over time than in situations where cooperating teachers follow a more traditional recitation style (even though opposed by the supervisor). This study suggests that teacher trainers and educators who want student teachers to adopt a less traditional pattern of teacher interaction must choose cooperating teachers with great care. Choosing cooperating teachers could be even more important for teacher training because of the stability of interaction patterns implicit in the data found in Tables 1, 3, 5 and 7. Teacher interaction behavior was characterized by relatively similar performances in nearly all categories early and late in a semester. Observation and analysis of a cooperating teacher's interaction pattern should precede any assignment of a student teacher. In-service courses could accompany or precede a cooperating teachers' participation in the enterprise of training future teachers. A pool of cooperating teachers should be selected by a college for the express purpose of utilizing them as teacher trainers and random assignment of student teachers should be eliminated if it is part of any college training program.

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